

CLAIMS

1. A charging system in a packet switched network for charging packets
5 differently dependent on which service flow the packets belong to, the
charging system comprising a control system (201) having an account
function (203) which manage an account of at least one user and a
serving element (206) residing in a packet forwarding system (210) is
10 **characterised in** that said serving element (206) comprises a token
bucket (208) for a plurality of allowed services for a user adapted to
store reservations received from the account function (203) of the at
least one user associated with the token bucket (208).
2. The charging system according to claim 1, wherein the serving
15 element comprises a single token bucket for a plurality of allowed
services per user.
3. The charging system according to any of claim 1-2, wherein the
20 serving element comprises means for classifying the services into
different service classes based on a tariff plan of the services.
4. The charging system according to the previous claim, wherein the
allowed service classes are stored in a Service Class Vector.
- 25 5. The charging system according to any of claims 3-4, wherein the
means for classifying the services into different service classes
comprises a service filter adapted to identify the different service
flows.
- 30 6. The charging system according to the previous claim, wherein the
means for classifying the services into different service classes further
comprises Protocol Inspection Filters adapted to identify the different
service flows, when the service filter is not capable of said
identification.

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7. The charging system according to any of claims 1-6, wherein the packet forwarding system is a Gateway GPRS Support Node in a mobile telecommunication network.
- 5 8. A charging system in a packet switched network for charging packets differently dependent on which service flow the packets belong to, the charging system comprising a control system (201) containing a charging policy decision point (202) which calculates a charging policy and a serving element (206) residing in a packet forwarding
10 system (210) is **characterised in** that said charging policy decision point (202) is arranged to calculate a charging policy for a plurality of allowed services for at least one user prior to a request for a service and that said serving element (206) comprises a charging policy enforcement point (207) arranged to perform charging according to
15 the calculated charging policy for service requests provided that associated validity conditions are fulfilled.
9. The charging system according to claim 8, wherein the calculated charging policy comprises at least one user rating table and a set of
20 validity conditions.
10. The charging system according to the previous claim, wherein the charging policy is calculated based on historical and/or current user specific usage data.
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11. The charging system according to any of claims 9-10, wherein the set of validity conditions defines the lifetime of the at least one user rating table.
- 30 12. The charging system according to any of claims 9-11, wherein the calculated charging policy comprises at least two user rating tables having different time validity conditions.
- 35 13. The charging system according to any of claims 8-12, wherein the control system is implemented in a mobile telecommunication network.

14. A serving element (206) residing in a packet forwarding system of a charging system in a packet switched network (210) **characterised in** that said serving element (206) comprises means for receiving
5 reservations for at least one user, a token bucket (208) for a plurality of allowed services for a user adapted to store the reservations for the user associated with the token bucket, means for receiving a charging policy for allowed services, and a charging policy enforcement point
10 (207) arranged to perform charging for said plurality of the allowed services by reducing the stored reservation of the token bucket (206) according to the received charging policy.
15. The serving element according to claim 14, wherein the serving element comprises a single token bucket for a plurality of allowed
15 services per user.
16. The serving element according to any of claims 14-15, wherein the charging policy comprises at least one user rating table and a set of validity conditions.
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17. The serving element according to previous claim, wherein the charging policy is calculated based on historical and/or current user specific usage data.
- 25 18. The serving element according to any of claims 16-17, wherein the set of validity conditions defines the lifetime of the at least one user rating table.
- 30 19. The serving element according to any of claims 16-18, wherein the charging policy comprises at least two user rating tables having different time validity conditions.
- 35 20. The serving element according to any of claim 16-19, wherein the serving element comprises means for classifying the services into different service classes based on a tariff plan of the services.

21. The serving element according to the previous claim, wherein the
allowed user service classes are stored in a Service Class Vector.
- 5 22. The serving element according to any of claims 20-21, wherein the
means for classifying the services into different service classes
comprises a service filter adapted to identify the different service
flows.
- 10 23. The serving element according to the previous claim, wherein the
means for classifying the services into different service classes further
comprises Protocol Inspection Filters adapted to identify the different
service flows, when the service filter is not capable of said
identification.
- 15 24. The serving element according to any of claims 14-23, wherein the
packet forwarding system is a Gateway GPRS Support Node in a
mobile telecommunication network.
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